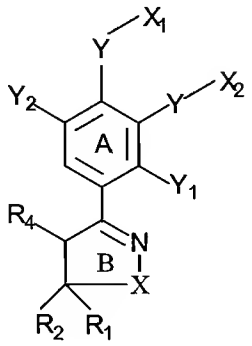
1. (Original) Compounds having the structure of Formula I:



Formula I

their pharmaceutically acceptable salts, pharmaceutically acceptable solvates, enantiomers, diastereomers or N-oxides wherein

1) when X is oxygen in Formula I:

R_1 is selected from: hydrogen; alkyl; alkenyl; alkynyl; cycloalkyl; cyano; nitro; amino; substituted amino; hydroxyl; alkoxy; aryloxy; COR′; COOR′

(wherein R′ can be hydrogen, alkyl, alkenyl, alkynyl, (un)saturated cycloalkyl, aryl, aralkyl, heterocyclyl, (heterocyclyl)alkyl, or (heteroaryl)alkyl);
aryl; aralkyl; heteroaryl; heterocyclyl; (heteroaryl) alkyl; (heterocyclyl) alkyl; $(CH_2)_{1-4}OR'$

(wherein R′ is as defined above, but also including hydroxy);

$C(=O)NR_xR_y$

(wherein R_x and R_y can be independently selected from hydrogen, alkyl, C_{3-6} alkenyl, C_{3-6} alkynyl, (un)saturated cycloalkyl, aryl, aralkyl, heteroaryl, heterocyclyl, heteroarylalkyl, or heterocyclylalkyl); or $(CH_2)_m$-$C(=O)R_3$ [wherein m is an integer in the range of 0-2 and R_3 can be optionally substituted R_p or R_q (wherein R_p can be a 4-12 membered (un)saturated monocyclic or bicyclic ring containing 1-4 heteroatom(s) selected from N, O and S wherein the ring can be attached to $(CH_2)_mC(=O)$ through N and R_q can be a 4-12 membered (un)saturated monocyclic or bicyclic ring containing 0-4 heteroatom(s) selected from the group consisting of N, O and S wherein the ring can be attached to $(CH_2)_mC(=O)$ through C) and wherein the substituents of R_3

can be one or more of: alkyl, alkenyl, alkynyl, (un)saturated cycloalkyl, halogen, hydroxyl, alkoxy, aryloxy, nitro, cyano, amino, substituted amino, hydroxyalkyl, oxo, acyl, optionally substituted amino (wherein the substituents are selected from C_1-C_6 alkyl, aryl, aralkyl, or cycloalkyl), aryl, carboxyl, alkaryl, carbamoyl, alkyl ether, $C(=O)NR_5R_6$ (wherein R_5 and R_6 are independently selected from hydrogen, alkyl, C_{3-6} alkenyl, C_{3-6} alkynyl, aryl, and aralkyl), optionally substituted monocyclic or bicyclic 4-12 membered carbocyclic ring system (wherein the optional substituent(s) is/are selected from alkyl, alkenyl, alkynyl, halogen, hydroxyl, and alkoxy), heteroaryl, heterocyclyl, heteroarylalkyl, or heterocyclylalkyl];

R_2 is selected from: cyano; heteroaryl; heterocyclyl; or $(CH_2)_nNHCOR_7$ (wherein n represents an integer 1 to 6 and R_7 can represent hydrogen, alkyl, alkenyl, alkynyl, (un)saturated , cycloalkyl, alkoxy, aryloxy, aryl, aralkyl, heteroaryl, heterocyclyl, $(CH_2)_{1-4}OR'$ wherein R′ is the same as defined above, or NR_xR_y wherein R_x and R_y are the same as defined above);

R_4 is selected from: hydrogen; alkyl; halogen; cyano; carboxy; or $C(=O)NR_xR_y$ wherein R_x and R_y are the same as defined above;

X_1 and X_2 are independently selected from: hydrogen; alkyl; alkenyl; alkynyl; cycloalkyl; acyl; aryl; aralkyl; heteroaryl; heterocyclyl; (heteroaryl)alkyl; or (heterocyclyl)alkyl;

Y is selected from: an oxygen atom; a sulphur atom; or NR

(wherein R is selected from hydrogen, alkyl, alkenyl, alkynyl, un(saturated) cycloalkyl, acyl, aryl, aralkyl, heteroaryl, heterocyclyl, (heteroaryl)alkyl, or (heterocyclyl)alkyl);

Y_1 and Y_2 are independently selected from: hydrogen; alkyl; nitro; cyano; halogen; OR wherein R is the same as defined earlier; SR wherein R is the same as defined earlier; NHR wherein R is the same as defined earlier; COOR′; or COR′ wherein R′ is the same as defined above, or further, Y_1 and X_2, X_1 and Y_2, X_1 and X_2 may together form a ring fused with the ring A containing 3-5 carbon atoms within the ring and having 1-3 heteroatoms selected from N, O or S; and

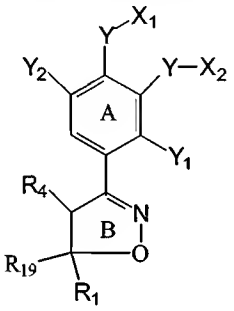
2) when X is NR_8 or S wherein R_8 is hydrogen, lower alkyl (C_1-C_6) or aryl:

R_1, R_4, X_1, X_2, Y, Y_1 and Y_2 are the same as defined above;

R_2 is selected from: $(CH)_nNHCOR_7$ (wherein n represents an integer 1 to 6 and R_7 is the same as defined above),

with the provisio that when R_2 is heterocyclyl, R_1 can not be $(CH_2)_{1-4}OR'$, $C(=O)NR_xR_y$ or $(CH_2)_m$-$C(=O)R_3$.

2. (Original) A compound having the structure of Formula XXXIV,



Formula XXXIV

their pharmaceutically acceptable salts, pharmaceutically acceptable solvates, enantiomers, diastereomers or N-oxides

wherein

R_1 is selected from: hydrogen; alkyl; alkenyl; alkynyl; cycloalkyl; cyano; nitro; amino; substituted amino; hydroxyl; alkoxy; aryloxy; COR′; COOR′

(wherein R′ can be hydrogen, alkyl, alkenyl, alkynyl, (un)saturated cycloalkyl, aryl, aralkyl, heterocyclyl, (heterocyclyl)alkyl, or (heteroaryl)alkyl);
aryl; aralkyl; heteroaryl; heterocyclyl; (heteroaryl) alkyl; (heterocyclyl) alkyl; $(CH_2)_{1-4}OR'$

(wherein R′ is as defined above, but also including hydroxy);

$C(=O)NR_xR_y$

(wherein R_x and R_y can be independently selected from hydrogen, alkyl, C_{3-6} alkenyl, C_{3-6} alkynyl, (un)saturated cycloalkyl, aryl, aralkyl, heteroaryl, heterocyclyl, heteroarylalkyl, or heterocyclylalkyl); or $(CH_2)_m$-$C(=O)R_3$ [wherein m is an integer in the range of 0-2 and R_3 can be optionally substituted R_p or R_q (wherein R_p can be a 4-12 membered (un)saturated monocyclic

or bicyclic ring containing 1-4 heteroatom(s) selected from N, O and S wherein the ring can be attached to $(CH_2)_mC(=O)$ through N and R_q can be a 4-12 membered (un)saturated monocyclic or bicyclic ring containing 0-4 heteroatom(s) selected from the group consisting of N, O and S wherein the ring can be attached to $(CH_2)_mC(=O)$ through C) and wherein the substituents of R_3 can be one or more of: alkyl, alkenyl, alkynyl, (un)saturated cycloalkyl, halogen, hydroxyl, alkoxy, aryloxy, nitro, cyano, amino, substituted amino, hydroxyalkyl, oxo, acyl, optionally substituted amino (wherein the substituents are selected from C_1-C_6 alkyl, aryl, aralkyl, or cycloalkyl), aryl, carboxyl, alkaryl, carbamoyl, alkyl ether, $C(=O)NR_5R_6$ (wherein R_5 and R_6 are independently selected from hydrogen, alkyl, C_{3-6} alkenyl, C_{3-6} alkynyl, aryl, and aralkyl), optionally substituted monocyclic or bicyclic 4-12 membered carbocyclic ring system (wherein the optional substituent(s) is/are selected from alkyl, alkenyl, alkynyl, halogen, hydroxyl, and alkoxy), heteroaryl, heterocyclyl, heteroarylalkyl, or heterocyclylalkyl];

R_4 is selected from: hydrogen; alkyl; halogen; cyano; carboxy; or $C(=O)NR_xR_y$ wherein R_x and R_y are the same as defined above;

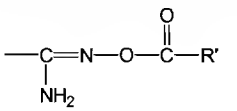
X_1 and X_2 are independently selected from: hydrogen; alkyl; alkenyl; alkynyl; cycloalkyl; acyl; aryl; aralkyl; heteroaryl; heterocyclyl; (heteroaryl)alkyl; or (heterocyclyl)alkyl;

Y is selected from: an oxygen atom; a sulphur atom; or NR

(wherein R is selected from hydrogen, alkyl, alkenyl, alkynyl, un(saturated) cycloalkyl, acyl, aryl, aralkyl, heteroaryl, heterocyclyl, (heteroaryl)alkyl, or (heterocyclyl)alkyl);

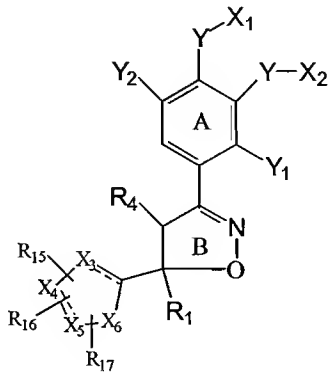
Y_1 and Y_2 are independently selected from: hydrogen; alkyl; nitro; cyano; halogen; OR wherein R is the same as defined earlier; SR wherein R is the same as defined earlier; NHR wherein R is the same as defined earlier; COOR′; or COR′ wherein R′ is the same as defined above, or further, Y_1 and X_2, X_1 and Y_2, X_1 and X_2 may together form a ring fused with the ring A containing 3-5 carbon atoms within the ring and having 1-3 heteroatoms selected from N, O or S; and

R_{19} represents -$CONHNH_2$, or



, wherein R′ is the same as defined for Formula I.

3. (Currently Amended) The compound of claim 1 having the structure of Formula XXXII,



Formula XXXII

their pharmaceutically acceptable salts, pharmaceutically acceptable solvates, enantiomers, diastereomers or N-oxides ~~wherein~~

wherein

R_1 is selected from: hydrogen; alkyl; alkenyl; alkynyl; cycloalkyl; cyano; nitro; amino; substituted amino; hydroxyl; alkoxy; aryloxy; COR′; COOR′

(wherein R′ can be hydrogen, alkyl, alkenyl, alkynyl, (un)saturated cycloalkyl, aryl, aralkyl, heterocyclyl, (heterocyclyl)alkyl, or (heteroaryl)alkyl);
aryl; aralkyl; heteroaryl; heterocyclyl; (heteroaryl) alkyl; (heterocyclyl) alkyl; $(CH_2)_{1-4}OR'$

(wherein R′ is as defined above, but also including hydroxy);

$C(=O)NR_xR_y$

(wherein R_x and R_y can be independently selected from hydrogen, alkyl, C_{3-6} alkenyl, C_{3-6} alkynyl, (un)saturated cycloalkyl, aryl, aralkyl, heteroaryl, heterocyclyl, heteroarylalkyl, or heterocyclylalkyl); or $(CH_2)_m$-$C(=O)R_3$ [wherein m is an integer in the range of 0-2 and R_3 can be optionally substituted R_p or R_q (wherein R_p can be a 4-12 membered (un)saturated monocyclic or bicyclic ring containing 1-4 heteroatom(s) selected from N, O and S wherein the ring can be attached to $(CH_2)_mC(=O)$ through N and R_q can be a 4-12 membered (un)saturated monocyclic or bicyclic ring containing 0-4 heteroatom(s) selected from the group consisting of N, O and S

wherein the ring can be attached to $(CH_2)_mC(=O)$ through C) and wherein the substituents of R_3 can be one or more of: alkyl, alkenyl, alkynyl, (un)saturated cycloalkyl, halogen, hydroxyl, alkoxy, aryloxy, nitro, cyano, amino, substituted amino, hydroxyalkyl, oxo, acyl, optionally substituted amino (wherein the substituents are selected from C_1-C_6 alkyl, aryl, aralkyl, or cycloalkyl), aryl, carboxyl, alkaryl, carbamoyl, alkyl ether, $C(=O)NR_5R_6$ (wherein R_5 and R_6 are independently selected from hydrogen, alkyl, C_{3-6} alkenyl, C_{3-6} alkynyl, aryl, and aralkyl), optionally substituted monocyclic or bicyclic 4-12 membered carbocyclic ring system (wherein the optional substituent(s) is/are selected from alkyl, alkenyl, alkynyl, halogen, hydroxyl, and alkoxy), heteroaryl, heterocyclyl, heteroarylalkyl, or heterocyclylalkyl];

R_4 is selected from: hydrogen; alkyl; halogen; cyano; carboxy; or $C(=O)NR_xR_y$ wherein R_x and R_y are the same as defined above;

Y is selected from: an oxygen atom; a sulphur atom; or NR

(wherein R is selected from hydrogen, alkyl, alkenyl, alkynyl, un(saturated) cycloalkyl, acyl, aryl, aralkyl, heteroaryl, heterocyclyl, (heteroaryl)alkyl, or (heterocyclyl)alkyl);

Y_1 and Y_2 are independently selected from: hydrogen; alkyl; nitro; cyano; halogen; OR wherein R is the same as defined earlier; SR wherein R is the same as defined earlier; NHR wherein R is the same as defined earlier; COOR′; or COR′ wherein R′ is the same as defined above, or further, Y_1 and X_2, X_1 and Y_2, X_1 and X_2 may together form a ring fused with the ring A containing 3-5 carbon atoms within the ring and having 1-3 heteroatoms selected from N, O or S;

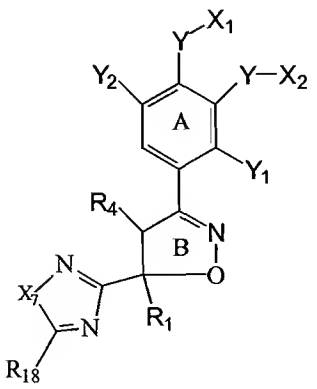
X_1 represents alkyl;

X_2 represents alkyl, cycloalkyl or aralkyl;

X_3, X_4, X_5 and X_6 independently represent C, CH, CH_2, CO, CS, NH, N, O, S; R_{15}, R_{16}, and R_{17} independently represent no atom, alkyl, $COCH_3$, $COOC_2H_5$, NH_2, NH-cyclopropyl, CN, SH; and

---- represents an optional single bond.

4. (Currently Amended) The compound of claim 1 having the structure of Formula XXIII,



Formula XXXIII

their pharmaceutically acceptable salts, pharmaceutically acceptable solvates, enantiomers, diastereomers or N-oxides ~~wherein~~

wherein

R_1 is selected from: hydrogen; alkyl; alkenyl; alkynyl; cycloalkyl; cyano; nitro; amino; substituted amino; hydroxyl; alkoxy; aryloxy; COR′; COOR′

(wherein R′ can be hydrogen, alkyl, alkenyl, alkynyl, (un)saturated cycloalkyl, aryl, aralkyl, heterocyclyl, (heterocyclyl)alkyl, or (heteroaryl)alkyl);

aryl; aralkyl; heteroaryl; heterocyclyl; (heteroaryl) alkyl; (heterocyclyl) alkyl; $(CH_2)_{1-4}OR'$

(wherein R′ is as defined above, but also including hydroxy);

$C(=O)NR_xR_y$

(wherein R_x and R_y can be independently selected from hydrogen, alkyl, C_{3-6} alkenyl, C_{3-6} alkynyl, (un)saturated cycloalkyl, aryl, aralkyl, heteroaryl, heterocyclyl, heteroarylalkyl, or heterocyclylalkyl); or $(CH_2)_m$-$C(=O)R_3$ [wherein m is an integer in the range of 0-2 and R_3 can be optionally substituted R_p or R_q (wherein R_p can be a 4-12 membered (un)saturated monocyclic or bicyclic ring containing 1-4 heteroatom(s) selected from N, O and S wherein the ring can be attached to $(CH_2)_mC(=O)$ through N and R_q can be a 4-12 membered (un)saturated monocyclic or bicyclic ring containing 0-4 heteroatom(s) selected from the group consisting of N, O and S wherein the ring can be attached to $(CH_2)_mC(=O)$ through C) and wherein the substituents of R_3

can be one or more of: alkyl, alkenyl, alkynyl, (un)saturated cycloalkyl, halogen, hydroxyl, alkoxy, aryloxy, nitro, cyano, amino, substituted amino, hydroxyalkyl, oxo, acyl, optionally substituted amino (wherein the substituents are selected from C_1-C_6 alkyl, aryl, aralkyl, or cycloalkyl), aryl, carboxyl, alkaryl, carbamoyl, alkyl ether, $C(=O)NR_5R_6$ (wherein R_5 and R_6 are independently selected from hydrogen, alkyl, C_{3-6} alkenyl, C_{3-6} alkynyl, aryl, and aralkyl), optionally substituted monocyclic or bicyclic 4-12 membered carbocyclic ring system (wherein the optional substituent(s) is/are selected from alkyl, alkenyl, alkynyl, halogen, hydroxyl, and alkoxy), heteroaryl, heterocyclyl, heteroarylalkyl, or heterocyclylalkyl];

R_4 is selected from: hydrogen; alkyl; halogen; cyano; carboxy; or $C(=O)NR_xR_y$ wherein R_x and R_y are the same as defined above;

X_1 and X_2 are independently selected from: hydrogen; alkyl; alkenyl; alkynyl; cycloalkyl; acyl; aryl; aralkyl; heteroaryl; heterocyclyl; (heteroaryl)alkyl; or (heterocyclyl)alkyl;

Y is selected from: an oxygen atom; a sulphur atom; or NR

(wherein R is selected from hydrogen, alkyl, alkenyl, alkynyl, un(saturated) cycloalkyl, acyl, aryl, aralkyl, heteroaryl, heterocyclyl, (heteroaryl)alkyl, or (heterocyclyl)alkyl);

Y_1 and Y_2 are independently selected from: hydrogen; alkyl; nitro; cyano; halogen; OR wherein R is the same as defined earlier; SR wherein R is the same as defined earlier; NHR wherein R is the same as defined earlier; COOR′; or COR′ wherein R′ is the same as defined above, or further, Y_1 and X_2, X_1 and Y_2, X_1 and X_2 may together form a ring fused with the ring A containing 3-5 carbon atoms within the ring and having 1-3 heteroatoms selected from N, O or S;

X_7 represents O or S; and

R_{18} represents hydrogen, alkyl, aryl, heteroaryl, cycloalkyl or heterocyclyl.

5. (Original) The compound of claim 1 wherein R_2 is cyano.

6. (Original) The compound of claim 1 wherein R_2 is $(CH_2)_nNHCOR_7$, n represents an integer 1 to 6; and R_7 can represent hydrogen, alkyl, alkenyl, alkynyl, (un)saturated, cycloalkyl, alkoxy, aryloxy, aryl, aralkyl, heteroaryl, heterocyclyl, $(CH_2)_{1-4}OR'$ wherein R′ is the same as

defined above, or NR_xR_y (wherein R_x and R_y can be independently selected from hydrogen, alkyl, C_{3-6} alkenyl, C_{3-6} alkynyl, (un)saturated cycloalkyl, aryl, aralkyl, heteroaryl, heterocyclyl, heteroarylalkyl, or heterocyclylalkyl).

7. (Original) The compound of claim 1 wherein R_2 is 6-membered heteroaryl.

8. (Original) A pharmaceutical composition comprising a therapeutically effective amount of a compound of claim 1, together with at least one pharmaceutically acceptable carrier, excipient or diluent.

9. (Cancelled)

10. (Cancelled)

11. (Cancelled)

12. (Cancelled)

13. (Cancelled)

14. (Previously Cancelled)

15. (Previously Cancelled)

16. (Previously Cancelled)

17. (Previously Cancelled)

18. (Previously Cancelled)

19. (Previously Cancelled)

20. (Previously Cancelled)

21. (Cancelled)

22. (Cancelled)

23. (Previously Cancelled)

24. (Previously Cancelled)

25. (Previously Cancelled)

26. (Previously Cancelled)

27. (Previously Cancelled)

28. (Previously Cancelled)